

REMARKS

The Office Action dated March 11, 2004, has been carefully considered. Applicant has cancelled claims 1-3, 5-6, 8-15 and 17-39 without prejudice or disclaimer of the subject matter contained therein. New claims 40-70 have been added and applicant requests that the Examiner consider the above amendments and the following remarks, and pass the application to allowance.

New Claims 40-70:

New Claim 40 recites an article of footwear comprising an upper, a sole having a ground engaging portion and an energy return system between the upper and the sole. The energy return system comprises: an upper plate and a lower plate spaced a predetermined distance from each other, the upper and lower plates having heel, arch, and toe portions, respectively, and made from an elastic material of high tensile strength, the plates independently deformable and recoverable from heel portion to toe portion; and two elastomeric elements, one disposed between the toe portion of the plates and the other disposed between the heel portion of the plates to maintain the spacing between said plates during a gait cycle of a wearer comprising a heel strike, a midstance, and a toe off; during heel strike the heel portion of the upper plate deformable downward and the arch portion of the upper plate deformable upward; during midstance the arch portion of both the upper and lower plates deformable downward and the heel portion of the upper plate recoverable to a non-deformable state rocking the wearer forward; and during toe off the upper and lower plates recoverable to the non-deformable state releasing stored energy into a step forward and upward propelling the wearer forward. Claims 41-50 are dependent from Claim 40. Claim 51 recites the energy return system as recited in Claim 40. Claims 52-61 are dependent from Claim 51.

Claim 62 recites an article of footwear comprising an upper, a sole and an energy return system. The energy return system comprising an upper plate and a lower plate spaced a predetermined distance from each plate, the plates having arch and toe portions, respectively, the upper and lower plates made from an elastic material of high tensile strength, the plates independently deformable and recoverable from arch portion to toe portion; and two elastomeric elements, one

disposed between the toe portion of the plates and the other disposed between the arch portion of the plates to maintain the spacing between said plates during a gait cycle of a wearer comprising a toe strike and a toe off wherein; during toe strike the toe portion of both the upper and lower plates are deformable upward; and during toe off, the upper and lower plates recoverable to the non-deformable state releasing stored energy into a step forward and upward propelling the wearer forward. Claims 63-70 are dependent from Claim 62.

Support for the new claims is shown in FIGS. 8A-8C and FIGS. 9A and 9B, and described in paragraphs [0038]-[0041] of the specification. Paragraphs [0038] and [0039] describe the movement of the upper plate from heel strike to midstance and to toe off. As described in the specification and as shown in FIG. 8A, at heel strike (heel rocker) the heel portion of the energy return system 20 flexes to accommodate heel contact of different people. More particularly, the upper plate 22 is deflected downward toward the ground surface (as shown in broken lines), thereby causing the arch portion 32 to be deflected upwards, or preloaded, as shown in broken lines. During midstance (ankle rocker), as shown in FIG. 8B, the energy return system 20 is slowly loaded as the limb advances over the stationary foot. At toe off (forefoot rocker), as shown in FIG. 8C, the toe portion of the upper plate 22 is bent. The upper plate 22 accommodates the foot in slightly plantar flexed position while the lower plate 24 provides a rocker pivot point. All the energy stored up to this point of the gait cycle is released into a step forward and upward propelling the wearer forward.

In addition, as described in paragraph [0040] and shown schematically in FIGS. 9A and 9B, the separating elements 26 (elastomeric elements) of the present invention are designed to accommodate various angles of the foot which may occur during the gait cycle. At heel strike, the hind foot is into supination (the ankle is turned in). The impact from the ground reaction forces are thus absorbed on the outside or lateral side of the heel. The upper and lower plates 22, 24 are still able to absorb the shock because the elastomeric nature of the separating elements allows the plates to deflect in that direction. In contrast, at the forefoot rocker, the forces are shifted from the lateral (outside) of the forefoot to the first metatarsal (big toe area). Due to the presence of the separating elements, the present invention allows

the plates to also deflect in this direction and thus return the energy in the most optimal fashion throughout the gait cycle.

Since none of the prior art teaches or suggests an energy return system as recited, Claims 40-70 should be allowable.

SUMMARY

In the event that there are any questions concerning this Amendment or the application in general, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution may be expedited.

Respectfully submitted,

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